

Tobacco and the Economy

Farms, Jobs, and Communities

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Introduction

Public health policies intended to reduce the incidence of smoking-related diseases adversely affect the tobacco industry. Discussions about tobacco policy are often hampered by a lack of facts about the tobacco industry, how it operates, and how it will be affected by tobacco control policies. This report provides facts about the tobacco industry and its role in the economy, describes the likely economic impacts of declining tobacco use, and identifies the most vulnerable farms, workers, businesses, and communities.

The report begins by briefly describing recent trends in tobacco consumption and production and tobacco's role in the general economy. A statistical portrait of the U.S. tobacco industry is provided, along with a description of the U.S. tobacco program and its effects on tobacco consumption, production, income, and trade. We then discuss various policy initiatives that have been advanced and analyze the likely impacts of such policies. We discuss the adjustments farms and communities will face; identify the most vulnerable farms, businesses, and regions; and discuss types of assistance that might be needed.

Tobacco's Role in the Economy

Consumption and Production

Tobacco is a major U.S. industry. In 1998, consumers spent an estimated \$59.3 billion on tobacco products, chiefly on cigarettes (\$55.7 billion). Much less is spent on cigars (\$1.0 billion), smoking tobacco, chewing tobacco, and snuff (\$2.5 billion combined), but these are also important industries. These consumer expenditures support thousands of businesses that manufacture, transport, market, and sell these products, as well as some 90,000 farms that grow tobacco leaf. Tobacco products are also an important source of tax revenue for Federal, State, and local governments.

U.S. consumption of tobacco products has generally fallen over the past several decades. Per capita consumption of cigarettes peaked in 1963 at 4,345. After the Surgeon General's 1964 pronouncement about the health hazards of cigarette smoking, per capita consumption fell by 44 percent over the next three decades to an estimated 2,261 in 1998.¹ U.S. consumption fell steadily after 1980, but overseas demand grew to keep total production roughly constant until the latter half of the 1990's, when exports began to fall (fig. 1).

Manufacturers mix a number of different types of tobacco in each product they make (table 1). Flue-cured and burley tobacco are the two major domestic types of tobacco used in cigarettes. These are blended with Oriental tobacco (not grown domestically) and a small amount of Maryland tobacco. Most of the other types of tobacco grown in the United States are used in cigars, chewing tobacco, and pipe tobacco products. Tobacco is not a homogeneous product. The flavor, mildness, texture, tar, nicotine, and sugar content vary considerably across varieties or types of tobacco. Defining characteristics of different tobacco types include the curing process (flue-, air-, sun-cured) and leaf color (light or dark), size, and thickness. A given type of tobacco has a different quality depending on where it is grown, its position on the stalk (leaves near the bottom of the stalk are lower in quality), and weather conditions during growing and curing.

Role of International Trade

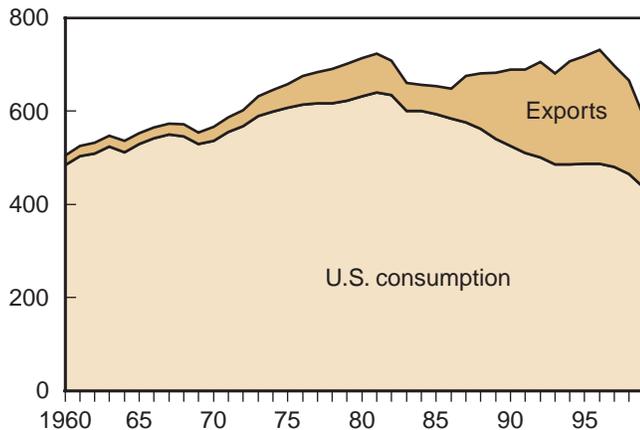
International trade plays an important role in the tobacco sector that must not be overlooked. Exports are

¹Johnson, pp. 59-66, discussed the Surgeon General's 1964 *Tobacco and Health* report in more detail. He summarized studies that have examined the impact of the 1964 report and effectiveness of public policies, such as advertising bans, on smoking. Johnson also pointed out that the decreasing amount of tobacco per cigarette means that the actual consumption of tobacco per capita peaked 10 years earlier, in 1953.

Figure 1

Components of demand for U.S. cigarette production, 1960-69

Billion cigarettes



Source: U.S. Department of Agriculture, *Tobacco Situation and Outlook*, various issues.

an important component of demand for cigarettes. The European Union and Japan are the largest markets for U.S. cigarettes, followed by the former Soviet Union countries, Middle Eastern countries, and other Asian countries. Exports to these markets are relatively unstable, however. In the late 1990's, economic troubles in East Asia and Russia dampened demand for U.S. exports. European demand remained strong, but exports to Europe from the United States fell as some manufacturers moved production from the United States to Europe. U.S. imports of cigarettes are relatively small, but imports are important in the cigar market.

An unusual aspect of the trade picture is the simultaneous export and import of large quantities of tobacco leaf by the United States.² U.S. tobacco is more expensive than tobacco from most competing countries, but quality is also high. Johnson (pp. 104-106) explains how the pricing of different grades in the tobacco price support system may have provided an incentive to substitute imported tobacco for lower quality domestic leaf. U.S. manufacturers blend low-priced foreign cigarette leaf with quality U.S. grades to achieve desired characteristics at lower costs.

²Several large tobacco-growing countries, including China (by far the largest), India, and Pakistan, have a self-contained tobacco economy, where essentially all tobacco products consumed are made with domestically grown tobacco. Japan and most western European countries import most of the tobacco leaf they use to manufacture cigarettes. A number of developing countries are net exporters of leaf.

Consequently, the United States has become virtually the largest importer and exporter of tobacco leaf, importing lower cost grades to round out blends while supplying higher grade leaf to other quality-conscious cigarette manufacturing countries that can afford it. Major export markets for U.S. leaf include Japan, Western Europe (principally Germany, the Netherlands, Denmark, the United Kingdom, Belgium-Luxembourg, Italy, and Spain), Turkey, and the newly industrialized countries of East Asia. In recent years, U.S. farmers have become more concerned about competition from lower priced imported tobacco leaf from Brazil, Malawi, Zimbabwe, and other countries in Latin America. The quantity of U.S. imports is restricted by tariff-rate quotas, which replaced short-lived domestic content provisions in 1995. Oriental tobacco, an important component of American-blend cigarettes, is imported from Turkey, Greece, and other countries of southern Europe.

Where Tobacco Dollars Go

Tobacco dollars support a considerable amount of economic activity in manufacturing, retail and wholesale trade, transportation, and the farm sector. In table 2 we show how the \$52.6 billion spent by U.S. consumers on tobacco products in 1997 was split among the various sectors of the tobacco industry. While tobacco leaf is the key ingredient in cigarettes and other tobacco products, its value accounts for only 4 cents of each consumer dollar spent on tobacco products (table 2). Marketings of U.S.-grown tobacco leaf were \$2.9 billion in 1997, of which about \$1.5 billion was exported, leaving \$1.4 billion worth of U.S. leaf available for domestic manufacture. Imports of tobacco leaf were \$1.1 billion in 1997. Thus, leaf valued at \$2.5 billion from domestic and foreign sources combined was available for U.S. manufacture. After adjusting for exports, we estimate that U.S. leaf represented about 2.3 cents of every dollar spent by U.S. consumers on tobacco products.

Beyond the farm gate, value is added to tobacco leaf by combining it with other inputs and using labor and capital to process, store, market, advertise, and transport it. Businesses also include a markup to make a profit and to cover excise taxes collected from manufacturers and wholesalers.³ Manufacturers combine the estimated \$2.5 billion of tobacco leaf with \$4.2 billion

³Manufacturers pay Federal excise taxes; wholesalers generally pay State excise taxes. Consumers also pay sales taxes on a percentage of retail sales value.

Data Used in This Report

This report assembles data from many different sources to provide a complete picture of the tobacco industry. The data are published by several different government agencies at varying time intervals. We sought to provide the most recent data available from each source, but the years on some statistics differ due to the various publication schedules. In this report, statistics on aggregate production, consumption, exports, and expenditures in the tobacco industry are generally available for 1998. These statistics are published regularly in ERS's *Tobacco Situation and Outlook* report.

We relied on the Census of Agriculture and Economic Census from 1997 to provide more detail on tobacco farms, manufacturers, and wholesale and retail businesses. These censuses are conducted in 5-year intervals. Detailed statistics on merchandise line sales for wholesale and retail trade from the 1997 Economic Census were not yet available when this report was written, so table 3 uses data from the 1992 Economic Census. Data on manufacturing output, wages, employment, and costs for noncensus years were obtained from the Census Bureau's Annual Survey of Manufactures to develop the time series in figure 2.

We used data from special USDA surveys of tobacco farms conducted in 1995 and 1996 to obtain detailed farm characteristics. This annual survey of a sample of U.S. farms is used to estimate costs, income, financial position, and other characteristics. The survey was known as the Farm Costs and Returns Survey (FCRS) until 1996 when it was renamed Agricultural Resource Management Survey (ARMS). Detailed commodity-specific information is collected only at 4- to 5-year intervals. The most recent data for flue-cured tobacco were collected in the 1996 ARMS, and the most recent burley data were collected in the 1995 FCRS. The burley data were collected from a sample of farms in Kentucky and Tennessee, while the flue-cured data were collected from a sample in Virginia, North Carolina, South Carolina, and Georgia. Special tobacco surveys were not carried out in States with relatively small tobacco production, due to the high costs of administering the surveys. Statistics reported here are weighted for stratification.

We obtained county-level data on personal income and employment from the U.S. Department of Commerce's Bureau of Economic Analysis (BEA). BEA's Regional Economic Information System reports detailed annual income and employment data for each U.S. county. These data were available for 1997.

Table 1—Tobacco types, 1998

Kind of tobacco	Quantity ¹	Share	Use	Where grown (domestically)
	<i>Mil. pounds</i>	<i>Percent</i>		
Flue-cured (light)	815.2	54.8	Cigarettes	VA, NC, SC, GA, FL
Air-cured (light)				
Burley	588.2	39.5	Cigarettes	KY, TN, VA, NC, IN, OH, WV, MO
Maryland	15.4	1.0	Cigarettes	MD, PA
Oriental	0.1	a	Cigarettes	not grown domestically
Air-cured (dark)	9.7	0.7	Chewing	KY, TN
Fire-cured (dark)	39.8	2.4	Cigars, chewing	KY, TN, VA
Cigar filler	9.5	.6	Cigars	PA, Puerto Rico
Cigar binder	7.8	.5	Cigars	WI, CT, MA
Cigar wrapper	2.4	.2	Cigars	CT, MA

¹ Production/actual marketings, 1998. Numbers were subject to revision.

a = Less than .1 percent.

Sources: U.S. Department of Agriculture, *Tobacco Situation and Outlook*; Tucker; Grise.

Table 2—Components of the U.S. tobacco industry, 1997

	Value	Share of U.S. tobacco dollar
	<i>Billion dollars</i>	<i>Percent</i>
Farm value of U.S. tobacco	2.9	
- Leaf exports	-1.5	
+ Leaf imports	1.1	
Tobacco leaf available for domestic manufacturing	2.5	4 ³
+ Nontobacco materials ¹	4.2	7 ³
+ Manufacturing value-added ²	26.1	43 ³
- Net exports	-4.5	*
+ Wholesale, retail, and transportation value-added ²	10.8	21
+ Federal excise taxes	5.7	11
+ State and local excise taxes	7.8	15
Consumer expenditures on tobacco	52.6	100

³Exports excluded from calculations.

¹Estimated from *1997 Census of Manufactures*.

²By subtraction. Value of manufactured tobacco products was obtained from *1997 Census of Manufactures*.

³It was estimated that 14 percent of manufactured products were exported and 86 percent were consumed domestically in 1997. Shares of U.S. consumer expenditures were calculated under the assumption that 86 percent of tobacco leaf and other manufacturing inputs were used in domestically consumed products.

Source: U.S. Department of Agriculture, *Tobacco Situation and Outlook*, except where noted.

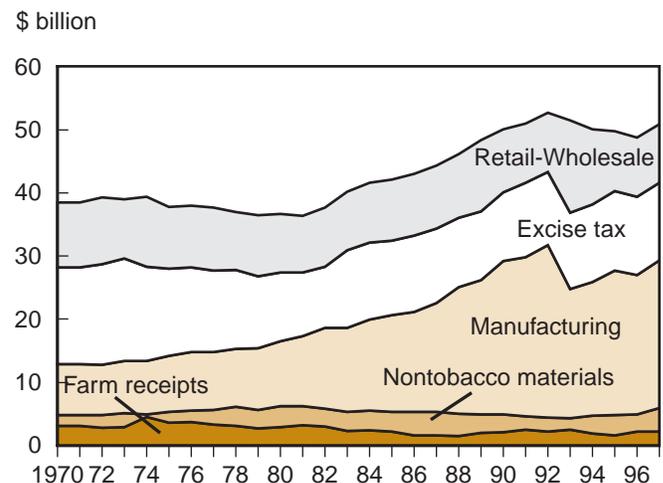
of nontobacco materials (intermediate products or inputs, including paper, filters, cellophane, and other packaging materials). The value added in manufacturing (the difference between the value of products produced, i.e., cigarettes, and the value of raw materials and intermediate products used, such as tobacco leaf, paper, and packaging) amounted to over \$26 billion in 1997, 43 percent of the final value of tobacco products. The value added equals the payments to labor (wages and salaries) and capital (interest, rent, and profits) at each stage of production and distribution. Wages and salaries in manufacturing account for only \$1.6 billion of value added. Advertising accounts for a much larger share—about \$5 billion (Federal Trade Commission). Profits are also a large share.

After manufacturing, governments at the Federal and State levels receive the next-largest share of the tobacco dollar—a combined share of \$13.5 billion in 1997, or 26 cents of every dollar spent on tobacco products by U.S. consumers (exports are exempt from excise taxes). The transportation, distribution, and sale of cigarettes and other tobacco products account for an estimated \$10.8 billion, or 21 cents of each domestic tobacco dollar. Much discussion of the tobacco industry focuses on farming and manufacturing, but wholesale and retail trade are also a large part that cannot be ignored.

Over the past several decades, the manufacturing sector has increased its share of the tobacco dollar sub-

stantially (fig. 2). Manufacturing's share of the tobacco dollar more than doubled from 21 percent in 1970 to 43 percent in 1997. Increased manufacturing value-added accounted for most of the gain in inflation-adjusted cigarette expenditures during the 1980's. In real dollars, spending on tobacco leaf and other materials, and value added in wholesale, retail trade, and

Figure 2
Shares of U.S. consumer tobacco expenditures accruing to various sectors of the tobacco industry, 1970-97



Note: Values expressed in constant 1992 dollars.
Source: Estimated from USDA and U.S. Bureau of the Census data.

transportation remained relatively steady from 1970 to 1997. Real cigarette excise tax revenue fell. In the 1990's, real domestic expenditures on cigarettes declined, halting the rise of manufacturing value added. Deep price cuts in 1993 resulted in a noticeable dip in manufacturing value-added from its peak value of \$27.3 billion in 1992.

The tobacco industry is hourglass-shaped in its structure. Tobacco leaf is funneled from thousands of farms through a handful of leaf wholesalers and manufacturing plants that make cigarettes and other products sold at thousands of retail establishments. In 1997, 89,544 farms grew tobacco, most of them small, family-operated, often part-time, enterprises. Of those, 65,755 grew tobacco as their primary crop. In 1997, there were only 25 tobacco stemming and redrying plants owned by 14 companies. There were 13 cigarette manufacturing establishments owned by 9 companies.

While much attention is given to tobacco farms and manufacturers, less is known about the tobacco wholesale and retail business, which accounts for a large share of the tobacco dollar. In 1992 (the most recent year for which data on wholesale and retail industries were available), 375 wholesale establishments dealt in tobacco leaf (table 3). About 1,700 tobacco products wholesalers handled most wholesale distribution of cigarettes and other manufactured tobacco products.

Grocery and drug wholesalers also handled a significant share. Also, tobacco products were sold by more than 200,000 retail establishments in 1992.⁴ About half of all tobacco products were sold by foodstores, 23 percent by gas stations, 10 percent by general merchandise stores (discount stores and warehouse clubs), 7 percent by drug stores, and another 7 percent by miscellaneous retail stores. Over the years, foodstores and gas stations increased their combined share of tobacco sales from about half in the 1960's to nearly three-fourths in 1992. Most of the increased share came at the expense of eating and drinking places, drug stores, and vending machines, whose combined share fell from 35 to 9 percent over that period. In the 1990's, convenience stores and warehouse clubs were the fastest growing outlets. Convenience foodstores, some of which are classified as foodstores, some as gas stations, accounted for nearly a third of tobacco sales in 1992. These stores are also the most reliant on tobacco sales. Tobacco accounted for nearly 21 percent of sales for convenience stores that did not sell gasoline, and 13 percent for convenience stores that did sell gasoline. By comparison, tobacco accounted for about

⁴ 1997 Economic Census data on wholesale and retail trade were not yet available when this report was written. Thus, we rely on 1992 data, the most recent available.

Table 3—Tobacco wholesale and retail trade businesses, 1992

Type of business	SIC	Establishments ¹	Sales ²	Share ³
		Number	Billion dollars	Percent
Wholesale				
Farm product raw materials	5159	375	3.6	99.6
Tobacco and tobacco products	5194	1,702	31.0	78.9
Groceries, general line	5141	1,155	3.7	6.0
Groceries and related products	5149	287	.5	5.8
Drugs	5122	47	.5	17.3
Retail				
General merchandise	53	12,117	4.9	2.4
Supermarkets	541	68,000	15.8	3.4
Convenience food stores	541	29,400	5.2	20.8
Convenience food/gas stores	541	20,860	3.7	13.1
Gas/convenience stores	554	31,053	6.7	9.7
Other gasoline service stations	554	37,958	4.3	4.8
Drug and proprietary stores	591	29,046	3.5	3.7
Liquor stores	592	18,486	1.6	8.0
Automated merchandise machines	5962	3,252	.7	10.0
Tobacco stores and stands	5993	1,477	.9	78.1

¹ Establishments with tobacco products sales.

² Tobacco products sales reported in the *Census of Retail Trade: Merchandise Line Statistics* were adjusted upward to be consistent with tobacco expenditures reported in *Tobacco Situation and Outlook*.

³ Tobacco as a share of sales for establishments selling tobacco.

Source: 1992 *Census of Retail Trade: Merchandise Line Statistics* and 1992 *Census of Wholesale Trade: Commodity Line Sales*, except where noted.

3 percent of sales in supermarkets, 10 percent of vending machine sales, and 8 percent of liquor store sales. Tobacco stores and stands relied on tobacco products for 78 percent of their sales, but they accounted for only 2 percent of total tobacco sales in 1992.

Employment Supported by Tobacco

Clearly, the tobacco industry has wide-ranging effects throughout the economy, affecting not only farms and manufacturers, but also wholesale and retail stores. Businesses in other industries that supply intermediate goods, inputs, and services also are reliant upon tobacco. These include companies in diverse sectors such as warehousing, paper, metal products, machinery manufacturing, advertising, transportation, and legal services.

The economic importance of tobacco is often measured by the number of jobs that it supports. Two recent industry-sponsored studies reviewed by the U.S. General Accounting Office counted 1.8 million (American Economics Group, Inc.) and 3.1 million (Tobacco Merchants Association) jobs related to tobacco. These studies use accounting techniques and input-output models of interindustry purchases to esti-

mate the “direct employment” in industries directly involved in producing and distributing tobacco products; “indirect employment” in industries that supply goods and services to those industries; and “expenditure-induced” employment created as employees spend their salaries and wages, creating additional demand for goods and services. Nonindustry-sponsored studies using similar techniques also estimated job totals between 1 and 2 million (Gale, 1997b; Warner et al.).

While the tobacco industry certainly provides employment for a large number of people, this type of analysis gives an incomplete picture of the likely economic impacts of a change in tobacco demand. Johnson points out that money that would have been spent on tobacco will not disappear from the economy. It will be spent on other goods and services, taxed, or saved. If tobacco expenditures are shifted to other goods and services, there will be a concomitant increase in demand for those products, subsequently increasing the demand for workers, capital, and other factors of production needed to produce them. Several authors have shown that the net impact is very small (Warner et al.; Irvine and Sims; Gale, 1997b).